

FORM PTO-1449

U.S. DEPARTMENT OF COMMERCE
Patent and Trademark Office

Attorney's Docket Number
5820.615

Serial Number
Not Yet Assigned

(Fill-A-Form 7.92)

INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

Applicant Daniel E. Resasco, et al.

Filing Date Herewith

Group Unknown

U. S. PATENT DOCUMENTS

EXAM INIT.		DOCUMENT NUMBER							DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
WA	AA	4	6	6	3	2	3	0	05/05/1987	Tennent	428	367	
	AB	5	1	6	5	9	0	9	11/24/1992	Tennent et al.	423	447	
	AC	5	2	2	7	0	3	8	07/13/1993	Smalley et al.	204	173	
	AD	5	3	0	0	2	0	3	04/05/1994	Smalley	204	157	
	AE	5	4	8	2	6	0	1	01/09/1996	Ohshima et al.	204	173	
	AF	5	5	4	3	3	7	8	08/06/1996	Wang	502	174	
	AG	5	5	5	6	5	1	7	09/17/1996	Smalley	204	157	
	AH	5	5	6	0	8	9	8	10/01/1996	Uchida et al.	423	461	
	AI	5	5	7	8	5	4	3	11/26/1996	Tennent et al.	502	180	
	AJ	5	5	8	7	1	4	1	12/24/1996	Ohshima et al.	423	461	
	AK	5	5	9	1	3	1	2	01/07/1997	Smalley	204	157	
	AL	5	6	0	3	9	0	7	02/18/1997	Grochowski	423	210	
	AM	5	6	4	8	0	5	6	07/15/1997	Tanaka	423	445	
	AN	5	6	4	1	4	6	6	06/24/1997	Ebbesen et al.	423	447	
	AO	5	6	9	5	7	3	4	12/09/1997	Ikazaki et al.	423	461	
	AP	5	6	9	8	1	7	5	12/16/1997	Hiura et al.	423	447	
	AQ	5	7	0	7	9	1	6	01/13/1998	Snyder et al.	502	416	
	AR	5	7	4	4	2	3	5	04/28/1998	Creehan	428	364	
	AS	5	7	5	3	0	8	8	05/19/1998	Olk	204	173	
	AT	5	7	7	3	8	3	4	06/30/1998	Yammamoto et al.	204	192	
	AU	5	7	8	0	1	0	1	07/14/1998	Nolan et al.	427	216	
	AV	5	8	1	4	2	9	0	09/29/1998	Niu et al.	423	344	
	AW	5	8	7	7	1	1	0	03/02/1999	Snyder et al.	502	180	
	AX	5	9	6	5	2	6	7	10/12/1999	Nolan et al.	428	408	
	AY	5	9	8	5	2	3	2	11/16/1999	Howard et al.	423	447	
✓	AZ	5	9	9	7	8	2	3	12/07/1999	Lieber et al.	423	249	

1011 S. PTO
09/98847
11/19/01

FOREIGN PATENT DOCUMENTS

EXAM INIT.	Office	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
							YES	NO
6/20	BA	PCT/US00/15362	unknown	International Search Report	—	—		
↓	BB	9709272	03/13/1997	PCT/US	—	—	X	
	BC	98392550	09/11/1998	PCT/US	—	—	X	
	BD	9842620	10/01/1998	PCT/JP	—	—		X
↓	BE	WO 00/17102	03/30/2000	PCT International Publication	—	—		

OTHER DOCUMENTS

(Including, Author, Title, Date, Pertinent Pages, Etc.)

EXAM INIT.		
6/20	CA	Bethune et al.; "Cobalt-Catalysed Growth of Carbon Nanotubes with Single-Atomic-Layer Walls," <u>Nature</u> , 363:605-607, Jun 1993.
	CB	V. Brotons et al., "Catalytic influence of bimetallic phases for the synthesis of single-walled carbon nanotubes", JOURNAL OF MOLECULAR CATALYSIS, A: Chemical 116 (1997) 397-403.
	CC	Cassell et al., "Large Scale CVD Synthesis of Single-Walled Carbon Nanotubes", AMERICAN CHEMICAL SOCIETY, pp. 6483-6492, 1999.
	CD	Che et al., "Chemical Vapor Deposition Based Synthesis of Carbon Nanotubes and Nanofibers Using a Template Method", CHEMICAL MATER. 1998, 10, PP. 260-267.
	CE	Chen et al., "Growth of carbon nanotubes by catalytic decomposition of CH ₄ or CO on a Ni-MgO catalyst", CARBON VOL. 35, No. 10-11, pp. 1495-1501, 1997.
	CF	Cheng et al.; "Bulk Morphology and Diameter Distribution of Single-Walled Carbon Nanotubes Synthesized by Catalytic Decomposition of Hydrocarbons," Chemical Physics Letters, 289:602-610, 1998.
	CG	Cheng et al.; "Large-Scale and Low-Cost Synthesis of Single-Walled Carbon Nanotubes by the Catalytic Pyrolysis of Hydrocarbons," Applied Physics Letters, 72(25):3282-3284, 06/25/98.
	CH	Dai et al.; "Single-Wall Nanotubes Produced By Metal-Catalyzed Disproportionation of Carbon Monoxide," Chemical Physics Letters, 260:471-475, 1996.
	CI	Database, Accession No. 1999-366878, Cano, "Canno KK", XP-002149235, 05/25/1999.
	CJ	Fonseca et al., "Synthesis of single-and multi-wall carbon nanotubes over supported catalysts", APPLIED PHYSICS A, 67, PP. 11-22, 1998.
↓	CK	Govindaraj et al., "Carbon structures obtained by the disproportionation of carbon monoxide over nickel catalysts", MATERIALS RESEARCH BULLETIN, Vol. 33, No. 4, pp. 663-667, 1998.

EXAM INIT.	OTHER DOCUMENTS <small>(Including, Author, Title, Date, Pertinent Pages, Etc.)</small>	
by	DA	Hafner et al., "Catalytic growth of single-wall carbon nanotubes from metal particles", CHEMICAL PHYSICS LETTERS, 296, PP 195-202, 1998.
	DB	Hernadi et al., "Catalytic synthesis of carbon nanotubes using zeolite support", ELSEVIER SCIENCE INC. 1996.
	DC	HYPERION CATALYSIS INTERNATIONAL Website; http://www.fibrils.com/esd.htm ; "Unique Slough Resistant SR™ Series ESD Thermoplastic Product Line Offers Reduced Particle Contamination For Demanding Electronic Applications," and Hyperion Homepage http://www.fibrils.com .
	DD	I. Willems et al., "Control of the outer diameter of thin carbon nanotubes synthesized by catalytic decomposition of hydrocarbons", CHEMICAL PHYSICS LETTERS, 317 (2000) pp. 71-76.
	DE	Iijima, Sumio; "Helical Microtubules of Graphitic Carbon," Nature, 354:56-58, Nov 1991.
	DF	Iijima et al.; "Single-Shell Carbon Nanotubes of 1-nm Diameter", Nature 363:603-605, Jun 1993.
	DG	Ivanov et al.; "The Study of Carbon Nanotubes Produced by Catalytic Method," Chemical Physics Lettersm 223:329-335, 1994.
	DH	Journet et al.; "Large-Scale Production of Single-Walled Carbon Nanotubes by the Electric-Arc Technique," Nature, 338:756-758, Aug 1997.
	DI	B. Kitiyanan et al., "Controlled production of single-wall carbon nanotubes by catalytic decomposition of CO on bimetallic Co-Mo catlaysts", CHEMICAL PHYSICS LETTERS, 317 (2000), pp. 497-503, 2/4/2000.
	DJ	Krishnankutty et al.; "The Effect of Copper on the Structural Characteristics of Carbon Filaments Produced from Iron Catalyzed Decomposition of Ethylene," Catalysts Today, 37:295-307, 1997.
	DK	Li et al., "Large-Scale Synthesis of Aligned Carbon Nanotubes", SCIENCE, Vol. 274, pp. 1701-1703.
	DL	Rinzler et al.; "Large-Scale Purification of Single-Wall Carbon Nanotubes: Process, Product, and Characterization," Applied Physics A, 67:29-37, 1998.
	DM	Thess et al., "Crystalline Ropes of Metallic Carbon Nanotubes, SCIENCE, Vol. 273, pp. 483-487.
✓	DN	Yakobson et al.; "Fullerene Nanotubes: C _{1,000,000} and Beyond," <u>American Scientist</u> , 85:324-337, Jul-Aug 1997.
EXAMINER <u>Re Anjen</u>		DATE CONSIDERED <u>6/27/93</u>
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609: Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to the applicant.		